

### CLAIMS

Claims 1-42 (Canceled)

43. (Currently amended) A method for controlling flow of a liquid in a microfluidic device comprising the steps of:

adding the liquid to an inlet of a circular the microfluidic device that is adapted for rotation about its axis, wherein said device comprises two substrates between which there are predetermined pathways for liquid flow, and wherein the inlet is capable of handling less than about 500nl of a liquid sample and of claim 20, wherein the liquid flows down the hydrophilic pathway until the liquid reaches the a hydrophobic section or valve in the pathway preventing the flow of liquid; and

applying sufficient energy to the liquid allowing it to pass the valve and continue to flow down the pathway.

44. (Previously presented) The method of claim 43, wherein the liquid flows down the hydrophilic pathway to the valve by capillary action.

45. (Previously presented) The method of claim 43, wherein the energy is centrifugal force created by rotating the device.

46. (Previously presented) The method of claim 43, wherein the liquid has a surface tension  $> 18 \text{ mNm}^{-1}$ .

47. (Previously presented) The method of claim 43, wherein the liquid is an aqueous solution or suspension having a surface tension  $> 50 \text{ mNm}^{-1}$ .

48. (New) The method of claim 43, wherein the liquid sample comprises reagents.

49. (New) The method of claim 43, wherein the liquid sample is between 1 to 10nl.